CLAIMS

1. An engine hood for a motor vehicle having a body, the engine hood having a deformable head impact zone for the protection of pedestrians in the event of a collision with the motor vehicle and comprising an outer shell and an inner shell, the engine hood being supported relative to the a body at bearer regions adjacent edge regions of the engine hood, wherein the engine hood has a flexural strength profile in the head impact zone according to the following:

adjacent the bearer regions, a flexural strength predominantly lower than or equal to a first value B1;

in a middle region of the engine hood, a flexural strength predominantly higher than or equal to a second value B2, B2 greater than B1; and

in intermediate regions between the bearer regions and the middle region, a flexural strength predominantly higher than the value B1 and lower than the value B2.

2. The engine hood as claimed in claim 1, wherein the outer shell has a first thickness and the inner shell has a second thickness, a sum of the first and second thicknesses in the head impact zone having a value profile according to the following:

adjacent the bearer regions (4) predominantly lower than or equal to a first value T1;

in a middle region, predominantly higher than or equal to a second value T2, T2 greater than T1; and

in intermediate regions between the bearer regions and the middle region, predominantly higher than the value T1 and lower than the value T2.

3. The engine hood as claimed in claim 2, wherein, in the region of the head impact zone, the sum of the shell thicknesses has a generally continuous and rising profile from the bearers to the edges and from the edges to the middle.

4. The engine hood as claimed in claim 1, wherein a distance separates the outer shell and inner shell, the distance varying in the region of the head impact zone in accordance with the following:

adjacent the bearer regions, the distance is predominantly lower than or equal to a first value H1;

in a middle region, the distance is predominantly higher than or equal to a second value H2, H2 greater than H1; and

in intermediate regions between the bearer regions and the middle region, the distance is predominantly higher than the value H1 and lower than the value H2.

5. The engine hood as claimed in claim 4, wherein, in the region of the head impact zone, the distance between the outer shell and the inner shell has a generally continuous and rising profile from the bearers to the edges and from the edges to the middle.

6. The engine hood as claimed in claim 1, wherein at least one of the shells is formed of a material having a modulus of elasticity that varies in the head impact zone according to the following:

adjacent the bearer regions, predominantly lower than or equal to a first value E1;

in a middle region, predominantly higher than or equal to a second value E2, E2 being greater than E1; and

in intermediate regions between the bearer regions and the middle region, predominantly higher than the value E1 and lower than the value E2.

7. The engine hood as claimed in claim 6, wherein, in the region of the head impact zone, the modulus of elasticity of the shell material has a generally continuous and rising profile from the bearers to the edges and from the edges to the middle.

8. The engine hood as claimed in claim 1, wherein the inner shell has beads which are connected to the outer shell at bead flanges bearing against the outer shell, and the flexural strength of each bead between two junction points is determined, in the region of the head impact zone, from the dimensions of the bead and of the outer shell at a section perpendicular to a neutral axis of the bead between the two junction points.

9. The engine hood as claimed in claim 8, wherein the beads have the following widths in the region of the head impact zone:

adjacent the bearer regions, predominantly lower than or equal to a first value S1;

in a middle region predominantly higher than or equal to a second value S2, S2 being greater than S1; and

in intermediate regions between the bearer regions and the middle region, predominantly higher than the value S1 and lower than the value S2.

10. The engine hood as claimed in claim 9, wherein, in the region of the head impact zone, the width of the beads has a generally continuous and

rising profile from the bearers to the edges and from the edges to the middle.

11. The engine hood as claimed in claim 8, wherein, in the region of the head impact zone, the beads are shaped as hat profiles and the junctions of the beads are formed predominantly by three hat profiles converging with one another.

12. The engine hood as claimed in claim 1, wherein, in the region of the head impact zone, the flexural strength of the engine hood has a generally continuous and rising profile from the bearers to the edges and from the edges to the middle.

13. The engine hood as claimed in claim 1, wherein at least one intermediate supporting shell is disposed between the outer shell and the inner shell.

14. The engine hood as claimed in claim 13, wherein the supporting shell has the following different densities:

adjacent a middle portion predominantly lower than or equal to a first value D2, D2 being greater than D1;

adjacent the bearer regions predominantly higher than or equal to a second value D1; and

in an intermediate regions between the bearer regions and the middle region, predominantly higher than the value D1 and lower than the value D2.

15. The engine hood as claimed in claim 1, wherein the engine hood without bearers has an approximately uniform mass distribution such that all reference surface elements that may be defined on the

engine hood in the head impact zone, with the exception of the bearer regions, have essentially identical weights per unit area, with a permissible deviation from an average weight per unit area of the engine hood without bearers of not over 20%.